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| APPLICATION NO.                 | FILING DATE | FIRST NAMED INVENTOR     | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------------|-------------|--------------------------|---------------------|------------------|
| 10/025,220                      | 12/19/2001  | Johan Urban Ingemar Ulin | 12090-000001        | 5044             |
| 30593                           | 7590        | 05/31/2006               | EXAMINER            |                  |
| HARNES, DICKEY & PIERCE, P.L.C. |             |                          | NAGPAUL, JYOTI      |                  |
| P.O. BOX 8910                   |             |                          | ART UNIT            |                  |
| RESTON, VA 20195                |             |                          | PAPER NUMBER        |                  |

1743

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                           |  |
|------------------------------|------------------------|---------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b>       |  |
|                              | 10/025,220             | ULIN, JOHAN URBAN INGEMAR |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>           |  |
|                              | Jyoti Nagpaul          | 1743                      |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

Amendment filed on March 28, 2006 has been acknowledged. Claims 1-23 are pending.

#### *Response to Amendment*

Rejection of **Claims 1-6 and 15-21** as being unpatentable over Waters (US 4952498) in view of Zurcher (US 6001687) has been *maintained* in light of applicant's remarks.

Rejection of **Claims 8-9 and 11-14** as being unpatentable over Waters in view of Zurcher (US 6001687) as applied to claims 1-3, 5-6 and 21 above, and further in view of Lautenschlager (US 5382414) has been *maintained* in light of applicant's remarks.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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3. **Claims 1-6 and 15-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Waters (US 4952498) in view of Zurcher (US 6001687).

Waters discloses a seal mechanism (58) for confining a chemical reaction in a reaction vessel (10) having an inner volume that is accessible through a penetrable diaphragm (30) covering an opening of the reaction vessel (10) and through which reagents are at least one of injected and extracted. The seal mechanism comprises a movable plunger (58) cooperating with diaphragm (30) (Col. 5, Lines 65-68 – Col. 6, Lines 1-2), plunger (58) being reversibly operable between a retracted position wherein the inner volume of the reaction vessel (10) is accessible through the diaphragm (30). (Col. 4, Lines 27-30) The plunger (58) is pivotally movable about an axis (C). The plunger is driven in a motion having a generally axial component and a generally radial component with respect to the axial direction of the vessel. The plunger is driven for a linear motion in axial direction of the vessel (10). (See Fig. 5) The apparatus includes a pressure detector (62) that is supported on the plunger (58). The pressure monitor (62) is connected with the plunger (58) and by which the plunger (58) is controlled to apply an external pressure on the diaphragm that is related to the detected internal pressure generated by the chemical reaction in the reaction vessel (10).

Waters fails to disclose a self-sealing diaphragm.

Zurcher discloses an assembly comprising a container, a reservoir and a cap. The assembly also comprises a self-sealing diaphragm/septum portion (72) made of natural rubber, resilient plastic or elastomeric material that is puncturable and self sealing material. (See Col. 3, Lines 3-5)

It would have been obvious to one of the ordinary skill in this art at the time of the invention by applicant to modify the system Waters to include such a self-sealing diaphragm in order to allow for introduction of evacuation of fluid from the reaction vessel without compromising the vessel seal and disrupting the reaction conditions.

4. **Claims 8-9 and 11-14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Waters in view of Zurcher (US 6001687) as applied to claims 1-3,5-6 and 21 above, and further in view of Lautenschlager (US 5382414).

Refer above for the teachings of Water and Zurcher.

Water further discloses a dispenser/hypodermic needle capable of penetrating the diaphragm. Water further discloses visual or automatic monitoring of the inflated portion/diaphragm. (See abstract)

Water and Zurcher fail to teach one or more reaction vessels are successively movable to a position for microwave energy.

Lautenschlager teaches an apparatus for performing chemical and physical pressure reactions on sample by the action of microwaves. (See abstract) The apparatus includes a container insert in the form of a two-part receptacle comprising a closure element (20) within which removable sample container/reaction vessels (21) which receive a sample (22) are arranged in the pressure vessel (4.1). The closure element (20) is in the form of a length of tube and consists of microwave-permeable and high-pressure resistant material. (See Col. 4, Lines 46-56) The apparatus further includes a lower region in the vicinity of the bottom wall (6) and a coupling opening 12 is

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formed in the cylinder wall (5) to which the waveguide (3) is connected. (See Col. 4, Lines 8-11)

It would have been obvious to one of the ordinary skill in this art at the time of the invention by applicant to provide the modified system of Waters and Zurcher a source of microwave energy as described in Lautenschlager such that the reaction vessels of Waters and Zurcher are successively movable to a position for microwave energy as disclosed in Lautenschlager in order to obtain optimal reaction conditions inside the reaction vessel.

***Allowable Subject Matter***

**Claims 22 and 23** allowed.

**Claims 7 and 10** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art does not teach or fairly suggest a link mechanism which controls the pivoting motions and applied pressure of the plunger.

***Response to Arguments***

5. Applicant's arguments filed on March 28, 2006 have been fully considered but they are not persuasive.

With respect to the plunger being effective to counteract an outward deflection of the diaphragm caused by internal pressure in the vessel as recited by the claims, Waters does teach the plunger (58) is effective to counteract an outward deflection of the diaphragm (30) caused by an increase of internal pressure in the vessel (10).

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(Col.5, Lines 65-68 –Col.6, Lines 1-2) The plunger of Waters is capable of counteracting an outward deflection of the diaphragm. An external pressure source must be applied to perform this function, which appears to be the same as the claimed plunger. Applicant is also reminded that because of the broad interpretation and broad limitation of Claim 1, Waters does meet the limitation of the plunger being effective to counteract an outward deflection of the diaphragm caused by an increase of internal pressure in the vessel. Also, the applicant merely recites “the plunger is effective” as recited in the instant claims. According to the Webster the word “effective” merely means “ready for service or action”. It is clear that Waters teaches this limitation. Please refer to the rejection above.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jyoti Nagpaul whose telephone number is 571-272-1273. The examiner can normally be reached on Monday thru Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700